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EXAMINER

TALBOT, BRIAN K

ART UNIT	PAPER NUMBER
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1762

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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PAPER

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/942,386
Filing Date: August 30, 2001
Appellant(s): BEROZ ET AL.

MAILED
MAR 30 2007
GROUP 1700

Raymond Garguilo, Jr.
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed December 8, 2006 appealing from the Office action mailed June 6, 2005.

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(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,938,106	Pierson	9-1999
5,803,340	Yeh et al.	9-1998
5,597,469	Carey et al.	1-1997

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carey et al. (5,597,469) in combination with either Yeh et al. (5,803,340) or Pierson (5,938,106).

Carey et al. (5,597,469) teaches applying solder through a soldermask to a substrate having solder-wettable pads. The solder is reflowed and solidified to form the contact. Carey et al. (5,597,469) teaches applying solder-wettable material to the soldermask prior to applying the solder thereby forming a soldermask having both solder-wettable areas and non solder-wettable areas. Carey et al. (5,597,469) teaches non-solder wettable metal films such as chromium or aluminum can be used as mask (16). The non-solder wettable metal layer (16) enables the solder material to withdraw from the surface of the layer (16) to locations within the edges (16') of the apertures and for the shape of the solder to be raised. (col. 6, lines 35-45).

Carey et al. (5,597,469) fails to teach cooling the solder to solidify to solder into a solder ball.

Yeh et al. (5,803,340) or Pierson (5,938,106) teach cooling applied solder to solidify in solder balls.

Yeh et al. (5,803,340), (abstract, Figs. 1-2 and col. 4, lines 1-10) or Pierson (5,938,106), (abstract, Figs. 3-4 and col. 4, lines 20-30) teach cooling the solder to solidify the solder into a ball.

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Therefore, it would have been obvious for one skilled in the art at the time the invention was made to have modified Carey et al. (5,597,469) process by cooling the applied solder as evidenced by either Yeh et al. (5,803,340) or Pierson (5,938,106) with the expectation of achieving a solder ball isolated from the edges of the mask (16).

(10) Response to Argument

Appellant argued that the prior art fails to teach the claimed invention, specifically that the prior art fails to teach the inclusion of an “electrically conductive potential plane element” because the mask is also taught to be a dielectric film.

The Examiner disagrees as detailed in the rejection above. As noted, Carey et al. (5,597,469) teaches the mask (16), i.e. the electrically conductive potential plane element, can be made of an electrically conductive material such as chromium or aluminum. Even though the references teach alternative material useful for the mask (16), this does not take away the fact that the mask can also be made of metal and therefore meet the claimed limitations. Furthermore, Appellant’s specification, [0021], lists a grouping of metals useful for the “electrically potential plane element” which includes chromium. Therefore, since both the prior art and instant application utilize the same metallic material, chromium, it is the Examiner’s position that the limitation is met by Carey et al. (5,597,469) since the mask is taught to allow solder material to withdraw from the sides of the mask during ball formation and solidification.

(11) Related Proceeding(s) Appendix

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No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

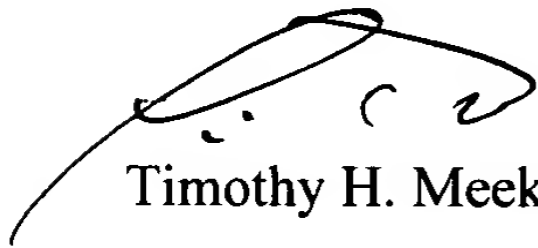
For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

 3/27/07

Brian K. Talbot

Conferees:


Timothy H. Meeks


Kathryn Gorgos